

CLAIMS

1. An apparatus for reducing transmission overhead in a communication
2 system, comprising:
a processor for generating a data origination message, said data
4 origination message initiating a data communication with a receiving station,
said processor further for transmitting information needed to construct data
6 network header information at said receiving station, and for subsequently
formatting information to be transmitted in accordance with a pre-determined
8 format, said pre-determined format lacking data network header information;
and
10 a transmitter for transmitting said data origination message and said
formatted information to said receiving station.
2. The apparatus of claim 1 wherein said data origination message
comprises said information needed to construct data network header
information.
3. The apparatus of claim 2 wherein said information needed to construct
2 data network header information comprises a data network header field.
4. The apparatus of claim 3 wherein said data network header field
2 comprises a destination data network address.
5. The apparatus of claim 1 wherein said information needed to construct
data network header information is transmitted in a data frame subsequent to
said data origination message.
6. The apparatus of claim 1 wherein said formatted information is not
2 transmitted until an acknowledgement is received from said receiving station.
7. The apparatus of claim 1 further comprising:
2 an application for generating datagrams; wherein
said processor is further for removing said data network header
4 information from said datagrams prior to formatting.

- 8 The apparatus of claim 1 further comprising:
2 an application for generating datagrams; wherein
said processor is further for transmitting at least one full datagram to
4 said receiving station, and further for removing said data network header
information from subsequent ones of said datagrams prior to formatting.
9. A system for reducing transmission overhead in a communication
2 system, comprising:
a communication device, comprising:
4 a processor for generating a data origination message, said data
origination message initiating a data communication with a receiving station,
said processor further for transmitting information needed to construct data
network header information at said receiving station, and for subsequently
8 formatting information to be transmitted in accordance with a pre-determined
format, said pre-determined format lacking data network header information;
a transceiver for transmitting said data origination message and said
formatted information to a receiving station; and
12 said receiving station, comprising:
said receiving station for receiving said information needed to construct
14 datagrams at said receiving station and for providing said information needed
to construct datagrams at said receiving station to a second processor;
16 said second processor for receiving said information needed to construct
datagrams at said receiving station, for storing said information needed to
18 construct datagrams at said receiving station in a storage device, and for
configuring a data packet generator to generate datagrams to a destination data
20 network address across a data network; and
said storage device for storing said information needed to construct
22 datagrams at said receiving station; and
said data packet generator for generating datagrams in accordance with
24 at least one data network protocol, each of said data network protocols having a
respective header associated with it, each of said headers comprising
26 information obtained from at least said storage device.
10. The apparatus of claim 9 wherein said data origination message
2 comprises said information needed to construct datagrams at said receiving
station.

11. The apparatus of claim 10 wherein said information needed to construct datagrams at said receiving station comprises a data network header field.
12. The apparatus of claim 11 wherein said data network header field comprises a destination data network address.
13. The apparatus of claim 9 wherein said information needed to construct datagrams at said receiving station is transmitted in a data frame subsequent to said data origination message.
14. The system of claim 9 further comprising:
a data packet receiver for receiving datagrams from said destination device;
said second processor further for determining a destination communication device for which said datagrams are intended, and for removing data network header information from said datagrams, and further for formatting said data network header removed datagrams in accordance with a pre-determined data format, said pre-determined data format lacking said data network header information; and
a transmitter for transmitting said formatted information to said destination communication device.
15. The system of claim 5 wherein the destination communication device is determined by comparing a second destination data network address provided by said data packets from said destination device to a list of destination data network addresses in said storage device and retrieving a corresponding communication device identification code.
16. The system of claim 5 wherein said second processor is further for generating a second data origination message comprising information indicating that a data communication is available.
17. The system of claim 7 wherein said second data origination message comprises information for allowing said destination communication device to decode said formatted information.
18. A method for reducing transmission overhead in a communication system, comprising the steps of:

generating a data origination message, said data origination message
4 initiating a data communication with a receiving station;
transmitting information needed to construct data network header
6 information at said receiving station;
transmitting said data origination message to said receiving station;
8 formatting information to be transmitted to said destination device in
accordance with a pre-determined data format, said pre-determined data
10 format lacking data network header information; and
transmitting said formatted information to said receiving station.

19. The method of claim 18 wherein said data origination message comprises
2 said information needed to construct datagrams at said receiving station.

20. The apparatus of claim 19 wherein said information needed to construct
datagrams at said receiving station comprises a data network header field.

21. The apparatus of claim 20 wherein said data network header field
comprises a destination data network address.

22. The apparatus of claim 18 wherein said information needed to construct
2 datagrams at said receiving station is transmitted in a data frame subsequent to
said data origination message.

23. The method of claim 18 wherein the step of transmitting said formatted
2 information to said receiving station occurs after an acknowledgement is
received from said receiving station.

24. The method of claim 23 wherein said acknowledgement indicates that a
2 data packet generator at said receiving station is configured for sending
information to said destination device.

25. The method of claim 18 further comprising the steps of:
receiving said information needed to construct datagrams at said
receiving station by said receiving station;
4 storing said information needed to construct datagrams at said receiving
station in a storage device;
6 configuring a data packet generator to generate datagrams in accordance
with said information needed to construct datagrams at said receiving station

8 across a data network, each of said datagrams comprising one or more data
network headers, said data network headers constructed using at least said
10 destination data network address stored in said storage device;

receiving said formatted information from said communication device to
12 be transmitted across said data network;

constructing datagrams in accordance with said data packet generator
14 configuration, and

16 sending said datagrams across said data network to a destination data
network address.

26. The apparatus of claim 25 wherein said data origination message
comprises said information needed to construct datagrams at said receiving
station.

27. The apparatus of claim 26 wherein said information needed to construct
6 datagrams at said receiving station comprises a data network header field.

28. The apparatus of claim 27 wherein said data network header field
2 comprises said destination data network address.

29. The apparatus of claim 25 wherein said information needed to construct
2 datagrams at said receiving station is transmitted in a data frame subsequent to
said data origination message.

30. The method of claim 25 further comprising transmitting an
2 acknowledgement to said communication device after said data packet
generator has been configured.

31. A method for reducing transmission overhead in a communication
2 system, comprising the steps of:

receiving a data origination message from a communication device, said
4 data origination message initiating a data communication with a receiving
station;

6 receiving information needed to construct datagrams at said receiving
station;

8 storing said information needed to construct datagrams at said receiving
station in a storage device;

10 configuring a data packet generator for transmitting data packets across

12 a data network to a destination device, said data packets formatting in
14 accordance with at least one data network protocol, said at least one data
16 network protocol comprising at least one data network header, said at least one
18 data network header formed from information stored in said storage device;
20 receiving formatted information from said communication device to be
transmitted to said destination device;
constructing datagrams in accordance with said data packet generator
configuration; and
transmitting said datagrams to said destination device across said data
network.

2 32. The apparatus of claim 31 wherein said data origination message
comprises said information needed to construct datagrams at said receiving
station.

2 33. The apparatus of claim 32 wherein said information needed to construct
datagrams at said receiving station comprises a data network header field.

2 34. The apparatus of claim 33 wherein said data network header field
comprises said destination data network address.

2 35. The apparatus of claim 31 wherein said information needed to construct
datagrams at said receiving station is transmitted in a data frame subsequent to
said data origination message.

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